AMENDMENTS TO THE CLAIMS

Claims 1-27 (Canceled)

28. (Previously presented) A transgenic mouse whose genome comprises a disruption in an endogenous PTP36 gene, wherein where the disruption is homozygous and the transgenic mouse is female, the transgenic mouse lacks production of functional PTP36 protein, and exhibits at least one of the following phenotypes, relative to a wild-type mouse: a uterine abnormality, a hormonal imbalance, androgenization, increased body weight, increased organ weight, reduced or absent mammary tissue or increased anogenital distance.
29. (Previously presented) The transgenic mouse of claim 28, wherein the uterine abnormality comprises uterine dilation.
30. (Previously presented) The transgenic mouse of claim 28, wherein the uterine abnormality comprises presence of keratin in uterine horns.
31. (Previously presented) The transgenic mouse of claim 28, wherein the uterine abnormality comprises presence of keratin in uterine lumen.
32. (Previously presented) The transgenic mouse of claim 28, wherein the increased organ weight comprises increased liver weight.
33. (Previously presented) The transgenic mouse of claim 28, wherein the increased organ weight comprises increased spleen weight.
34. (Previously presented) The transgenic mouse of claim 28, wherein the increased organ weight comprises increased thymus weight.
35. (Previously presented) The transgenic mouse of claim 28, wherein the increased organ weight comprises increased liver weight relative to body weight.
36. (Previously presented) The transgenic mouse of claim 28, wherein the increased organ weight comprises increased spleen weight relative to body weight.
37. (Previously presented) A cell or tissue obtained from the transgenic mouse of claim 28.
38. (Previously presented) A transgenic mouse comprising a heterozygous disruption in an endogenous PTP36 gene, wherein the disruption in a homozygous state in a female mouse inhibits production of functional PTP36 protein resulting in a transgenic female mouse exhibiting at least one of the following phenotypes, relative to a wild-type mouse: a uterine

abnormality, a hormonal imbalance, androgenization, increased body weight, increased organ weight, reduced or absent mammary gland tissue or increased anogenital distance.

39. (Previously presented) The transgenic mouse of claim 38, wherein the uterine abnormality comprises uterine dilation.

40. (Previously presented) The transgenic mouse of claim 38, wherein the uterine abnormality comprises presence of keratin in uterine horns.

41. (Previously presented) The transgenic mouse of claim 38, wherein the uterine abnormality comprises presence of keratin in uterine lumen.

42. (Previously presented) The transgenic mouse of claim 38, wherein the increased organ weight comprises increased liver weight.

43. (Previously presented) The transgenic mouse of claim 38, wherein the increased organ weight comprises increased spleen weight.

44. (Previously presented) The transgenic mouse of claim 38, wherein the increased organ weight comprises increased thymus weight.

45. (Previously presented) The transgenic mouse of claim 38, wherein the increased organ weight comprises increased liver weight relative to body weight.

46. (Previously presented) The transgenic mouse of claim 38, wherein the increased organ weight comprises increased spleen weight relative to body weight.

47. (Currently amended) A method of producing a transgenic mouse comprising a disruption in an endogenous PTP36 gene, the method comprising:

(a) introducing a targeting construct capable of disrupting an endogenous PTP36 gene into a mouse embryonic stem cell;

(b) selecting for the mouse embryonic stem cell that has undergone homologous recombination;

(c) introducing the mouse embryonic stem cell selected for in step (b) into a blastocyst;

(d) implanting the resulting blastocyst into a pseudopregnant mouse, wherein the ~~pseudopregnant~~ resultant mouse gives birth to a chimeric mouse; and

(e) breeding the chimeric mouse to produce the transgenic mouse,

wherein where the disruption is homozygous and the transgenic mouse is female, the transgenic mouse lacks production of functional PTP36 protein and exhibits at least one of the following phenotypes, relative to a wild-type mouse: a uterine abnormality, a

hormonal imbalance, androgenization, increased body weight, increased organ weight, reduced or absent mammary gland tissue or increased anogenital distance.

Claims 48-51(Canceled)